FILE 'USPAT' ENTERED AT 09:25:01 ON 24 JAN 94

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                               *
*                    W E L C O M E   T O   T H E                *
*                                                               *
*          U. S.   P A T E N T   T E X T   F I L E              *
*                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

=> d acc 5056814 4852907 4761333 4334699 4148503 4910242 cit ab

1. 5,056,814, Oct. 15, 1991, Pad for air bag device; Kouji Shiraki, et al., 280/731, 728B [IMAGE AVAILABLE]

US PAT NO: 5,056,814 [IMAGE AVAILABLE] ANS: 1

ABSTRACT:
A pad covering an inflatable air bag for use in an air bag device provided with an upper wall which is broken by inflation of the air bag, and side walls which extend downward from the peripheral edges of the upper wall. A base insert made of metal is disposed next to the side walls, and a flexible net insert is connected to the inner surface side of the upper side of the base insert through the attaching plate. The base insert, the net insert and the attaching plate are covered by the coating layer made of soft synthetic resin. The net insert is connected to the attaching plate by means of sewing, and the attaching plate is fixed to the base insert preferably by rivets.

2. 4,852,907, Aug. 1, 1989, Pad for air bag device; Kouji Shiraki, et al., 280/731, 728B [IMAGE AVAILABLE]

US PAT NO: 4,852,907 [IMAGE AVAILABLE] ANS: 2

ABSTRACT:
There is disclosed a pad for use in an air bag device enclosing an air bag which inflates in case of an accident. The device is mounted to mount members disposed around the bag. The pad is shaped like a box, and comprises an upper wall and side walls extending downward from the fringes of the upper wall. The pad is molded integrally with an insert on which a coat layer is formed out of a soft synthetic resin. The coat layer has a thin-walled portion that breaks when the air bag inflates. The thin-walled portion is disposed at a given position on the upper wall. The insert comprises a rectangular tubular base portion made from a synthetic resin and a plurality of flexible nets disposed on opposite sides of the thin-walled portion. The base portion is disposed inside the side walls. The nets are disposed on the upper wall and connected to the top of the base portion. An attachment portion for mounting the pad to the mount members and setting portions for setting the pad in a mold used to mold the coat layer are formed on the base portions.

3. 4,761,333, Aug. 2, 1988, Steering wheel; Masahiro Takimoto, et al., 428/327; 74/552, 558; 428/424.6, 424.7 [IMAGE AVAILABLE]

US PAT NO: 4,761,333 [IMAGE AVAILABLE] ANS: 3

ABSTRACT:
A steering wheel is described, which comprises a core that is covered with a synthetic resin covering material which is overlaid with a coating film thereon, wherein said covering material is formed using an injection molding method by a resin composition that comprises 100 parts by weight of a polyvinyl chloride resin, 100 to 200 parts by weight of a phthalic acid ester based plasticizer represented by formula (I) and 10 to 40 parts by weight of an acrylonitrile-butadiene rubber: ##STR1## wherein

R.sub.1 and R.sub.2 are each an alkyl group, provided that when the total number of mols of R.sub.1 and R.sub.2 is 100 mol, a monomethyloctyl group is present in an amount of 10 to 60 mols, while a dimethylheptyl group is present in an amount of 30 to 70 mols.

4. 4,334,699, Jun. 15, 1982, Cap-like cover for an air bag installation; Helmut Patzelt, et al., 280/731; 428/43 [IMAGE AVAILABLE]

US PAT NO: 4,334,699 [IMAGE AVAILABLE] ANS: 4

ABSTRACT:
A cap-like cover member clippable on a baseplate of a steering wheel, the cover member is formed of an elastic material and serves to cover an air bag installation disposed inside the steering wheel of a motor vehicle. The cover is adapted to rip open and unfold in the manner of the hindge along predetermined breaking lines when the air bag is deployed. A downwardly pulled edge of a cover member mounted at the steering wheel, when subjected to outwardly directed forces by an inflating air bag, is prevented from being subjected to deformation phenomena by retainers.

5. 4,148,503, Apr. 10, 1979, Inflating type occupant restraint device; Harunori Shiratori, et al., 280/731, 728B [IMAGE AVAILABLE]

US PAT NO: 4,148,503 [IMAGE AVAILABLE] ANS: 5

ABSTRACT:
A receiving case for receiving a gas bag is formed of a side wall portion secured to a fixed member and a lid surface portion thinner than the side wall portion by the use of a material having a comparatively high hardness and a ductility. Further, the lid surface portion is formed with fragile portions contiguous to one another. At the inflation of the gas bag, the receiving case for the gas bag is prevented from scattering in the form of broken pieces, and the gas bag is prevented from being damaged by a sharp edge otherwise arising at the fracture surface of the receiving case.

6. 4,910,242, Mar. 20, 1990, Storable joint sealing compound; Tore Podola, et al., 524/158, 157, 315, 356, 361, 481, 500, 502, 503, 507; 525/126, 129 [IMAGE AVAILABLE]

US PAT NO: 4,910,242 [IMAGE AVAILABLE] ANS: 6

ABSTRACT:
Moisture-hardening joint sealing compositions based on polyurethane prepolymers, swellable polymer powders, plasticizers and other auxiliaries have increased stability in storage when they contain C.sub.8 -C.sub.20 olefins as stabilizers.

=> &

=> d acc 4666968 4657542 4451259 4408026 4347338 4272464 3882191 cit ab

1. 4,666,968, May 19, 1987, Ester plasticizers for polyarethane compositions; William J. Downey, et al., 524/296; 523/173; 524/284, 297, 589, 590, 773, 775 [IMAGE AVAILABLE]

US PAT NO: 4,666,968 [IMAGE AVAILABLE] ANS: 1

ABSTRACT:
A plasticized polyurethane gel system comprising the reaction product of an isocyanate compound and a polyol in the presence of a plasticizer compound having a total solubility parameter of between about 8.3 and 8.9 or between about 9.1 and 9.7.

2. 4,657,542, Apr. 14, 1987, Medical instrument used for storage of blood; Yoshinori Ohachi, 604/410; 523/105; 524/114, 296, 297; 604/4, 5,

6, 282, 460, 465 [IMAGE AVAILABLE]

US PAT NO: 4,657,542 [IMAGE AVAILABLE] ANS: 2

ABSTRACT:
A medical instrument is disclosed which is a shaped article of a resin composition comprising 100 parts by weight of a vinyl chloride type resin, 10 to 80 parts by weight of a di-n-alkyl ester of phthalic acid whose alkyl groups each possess 8 to 14 carbon atoms and whose numbers of carbon atoms in said alkyl groups average 9 to 14, and 1 to 18 parts by weight of a stabilizer. The medical instrument exudes only an extremely small amount of plasticizer and excels in permeability to gas.

3. 4,451,259, May 29, 1984, Blood storage method; Ulrich C. Geissler, et al., 604/408; 524/297, 314 [IMAGE AVAILABLE]

US PAT NO: 4,451,259 [IMAGE AVAILABLE] ANS: 3

ABSTRACT:
Blood-compatible, chlorine-free polymers such as a flexible, non-toxic, sterilizable polyester plastic formulation may contain from 5 to 70 percent by weight of a blood-extractable ester such as di-2-ethylhexylphthalate, to cause blood which is stored in contact with the polymer to exhibit a surprisingly low hemolysis rate when compared with corresponding polymers which are free of the plasticizer. Accordingly, blood bags, tubing and other medical blood-contacting devices may be advantageously made from these polymers.

4. 4,408,026, Oct. 4, 1983, Mixtures of polymers for medical use; Christian Pusineri, et al., 525/128; 521/137; 524/105; 525/123, 129, 452 [IMAGE AVAILABLE]

US PAT NO: 4,408,026 [IMAGE AVAILABLE] ANS: 4

ABSTRACT:
Polymer compositions comprising a mixture of vinyl chloride polymer and polyetherurethane with tertiary amine and/or ammonium groups. The compositions can be converted into shaped articles, e.g. tubes, cannulae, catheters and the like useful in the medical field.

5. 4,347,338, Aug. 31, 1982, Process for preparing thermosettable polyurethane which comprises blending a polyisocyanate with a first thermoplastic resin and then blending with a second thermoplastic resin which is a polyurethane; Hideyasu Torii, et al., 525/123, 127, 129, 130, 399, 440, 457 [IMAGE AVAILABLE]

US PAT NO: 4,347,338 [IMAGE AVAILABLE] ANS: 5

ABSTRACT:
A thermosettable polyurethane product is prepared by blending a compound having two or more terminal isocyanate groups to a thermoplastic resin which is inert to said isocyanate group to prepare an isocyanate compound batch, and further blending the isocyanate compound batch to a thermoplastic polyurethane resin and fabricating the resulting mixture.

6. 4,272,464, Jun. 9, 1981, Method for preventing plasticizer bleeding on polyvinyl chloride shaped articles; Michihiko Asai, et al., 264/22; 204/167, 169; 524/507, 569; 525/129 [IMAGE AVAILABLE]

US PAT NO: 4,272,464 [IMAGE AVAILABLE] ANS: 6

ABSTRACT:
A method for preventing bleeding of plasticizers on the surface of shaped articles of plasticized polyvinyl chloride resins. The method comprises the steps of (a) blending a urethane elastomer with the polyvinyl chloride resin together with the plasticizer and other optional additives

prior to fabrication of the polyvinyl chloride resin composition into shaped articles, (b) fabricating the resin composition into desired shaped articles, and (c) subjecting the thus shaped article to a treatment with low temperature plasma of a gas. Carbon monoxide is preferred as the gas for the plasma atmosphere.

7. 3,882,191, May 6, 1975, Blend of thermoplastic polyurethane elastomer, polyvinyl chloride resin and chlorinated polyethylene; Julius A. Balatoni, et al., 525/125; 428/287, 475.5; 524/292, 296, 297, 298, 308, 312, 314, 507, 569; 525/129 [IMAGE AVAILABLE]

US PAT NO: 3,882,191 [IMAGE AVAILABLE] ANS: 7

ABSTRACT:
Blends of thermoplastic polyurethane elastomer, polyvinyl chloride resin and chlorinated polyethylene have good processing characteristics and are useful for making calendered sheet and film, coated fabrics, expanded articles, conveyor belts, etc.

=> F

08/ 147433

```
=> s steering wheel pad
         34801 STEERING
        154239 WHEEL
         76952 PAD
L1           17 STEERING WHEEL PAD
                (STEERING(W)WHEEL(W)PAD)

=> s vinyl chloride
        110656 VINYL
        237988 CHLORIDE
L2       27502 VINYL CHLORIDE
                (VINYL(W)CHLORIDE)

=> s aliphatic polyurethane
        108739 ALIPHATIC
         53773 POLYURETHANE
L3         278 ALIPHATIC POLYURETHANE
                (ALIPHATIC(W)POLYURETHANE)

=> s alkyl phthalic ester
        185843 ALKYL
         23365 PHTHALIC
        122770 ESTER
L4           0 ALKYL PHTHALIC ESTER
                (ALKYL(W)PHTHALIC(W)ESTER)

=> s l2 and l3  and l1
L5           0 L2 AND L3 AND L1

=> s l2 and l3
L6          30 L2 AND L3

=> s steering wheel cover
         34801 STEERING
        154239 WHEEL
        353433 COVER
```

L7 40 STEERING WHEEL COVER
(STEERING(W)WHEEL(W)COVER)

=> s l6 and l7
L8 0 L6 AND L7

=> d his

(FILE 'USPAT' ENTERED AT 09:25:01 ON 24 JAN 94)
L1 17 S STEERING WHEEL PAD
L2 27502 S VINYL CHLORIDE
L3 278 S ALIPHATIC POLYURETHANE
L4 0 S ALKYL PHTHALIC ESTER
L5 0 S L2 AND L3 AND L1
L6 30 S L2 AND L3
L7 40 S STEERING WHEEL COVER
L8 0 S L6 AND L7

=> s 524/clas
L9 55970 524/CLAS

=> s 525/clas
L10 46965 525/CLAS

=> s 280/clas
L11 69550 280/CLAS

=> s l1 and l11
L12 6 L1 AND L11

=> d l12 cit ab 1-6

1. 5,267,486, Dec. 7, 1993, Steering wheel with pad; Minoru Niwa, et al., 74/552, 558; 280/731 , 750 [IMAGE AVAILABLE]

US PAT NO: 5,267,486 [IMAGE AVAILABLE] L12: 1 of 6

ABSTRACT:
A steering wheel having a body including a boss, a ringlike rim and a plurality of inclined spokes connecting the boss and the rim is characterized in that a pad which may serve as an air bag unit is disposed within the body so as to extend from the boss to the upper portion of the spokes. The pad is mounted with a plurality of brackets extending between the pad and the spokes. Each of the brackets is fastened to an inclined spoke on one hand and, on the other, has a through-hole for receiving a support projecting from the boss or a respective spoke for holding the pad in position and regulating the lateral movement of the pad.

2. 5,235,146, Aug. 10, 1993, Steering wheel horn switch arrangement; Michitaka Suzuki, 200/61.54, 61.55; 280/731 [IMAGE AVAILABLE]

US PAT NO: 5,235,146 [IMAGE AVAILABLE] L12: 2 of 6

ABSTRACT:
A horn switch arrangement for a vehicle steering wheel comprises a steering wheel affixed to a steering shaft of a vehicle, a horn plate movably mounted on the steering wheel with a spring urging the horn plate away from the steering wheel. The horn plate is provided with insulating members above and below for resiliently and mounting the horn plate in an insulated condition. A base plate is mounted on the upper insulating member the base plate being normally covered with a pad. The base plate may be further utilized to conveniently mount an airbag module on the steering wheel.

3. 5,198,629, Mar. 30, 1993, Steering wheel having insert molded

membrane switch; Chizuko Hayashi, et al., 200/61.54; 312; 200/731 [IMAGE AVAILABLE]

US PAT NO: 5,198,629 [IMAGE AVAILABLE] L12: 3 of 6

ABSTRACT:
A horn switch for a steering wheel having an air bag device. The steering wheel includes a multilayer membrane switch as the horn switch in which spacers in one layer are not aligned with the spacers in the other layers. Accordingly, even when the membrane switch is depressed just over one of the spacers in one layer, the electrode plates in the other layers can make contact with each other. Thus the operable area of the membrane switch is enlarged. Further, the membrane switch is supported on its lower surface by a number of ribs which define a number of spaces between the pad lower surface and air bag device. As a result of this space, the operation on the membrane switch can be made resilient in spite of the provision of the air bag device directly under the steering wheel pad . Further, because each part of the pad separated by the air bag device upon impact, each part must be provided with a membrane switch. For this reason, a wiring structure for the two membrane switches is provided such that the manufacture of the pad and the assembly of the steering wheel is more easily facilitated.

4. 5,142,922, Sep. 1, 1992, Impact sensing apparatus; Kazunori Sakamoto, et al., 74/2; 102/252; 180/282; 280/734 [IMAGE AVAILABLE]

US PAT NO: 5,142,922 [IMAGE AVAILABLE] L12: 4 of 6

ABSTRACT:
An impact sensing apparatus includes a housing, a weight freely rotatably and movably supported within the housing at a position offset from the centroid of the weight, a firing lever pivotally supported on the housing for engaging the weight, and a spring stretched between the housing and the firing member for constantly biasing the firing member in a direction which engages it with the weight. The weight is held at a predetermined position, though its engagement with the firing pin, owing to the biasing force of the spring. When the apparatus is subjected to a prescribed acceleration under these conditions, the weight moves and rotates against the biasing force of the spring, thereby disengaging the firing pin and allowing it to turn. Erroneous operation ascribable to small, momentary shocks, as when a vehicle is traveling on a bumpy road, is prevented.

5. 4,934,735, Jun. 19, 1990, Switch assembly for modular occupant restraint system; James T. Embach, 280/731 ; 200/61.54 [IMAGE AVAILABLE]

US PAT NO: 4,934,735 [IMAGE AVAILABLE] L12: 5 of 6

ABSTRACT:
A modular occupant restraint system includes a container for the inflatable cushion and cover over the container, with the cover and container having split lines which separate their upper walls into outwardly and oppositely opening upper and lower pairs of flaps to permi deployment of the inflatable cushion. A switch assembly located between either or both pairs of flaps includes one or more membrane switches located between the flaps and respective keypads projecting outwardly of the cover flap for closing respective pairs of printed circuits on the upper and lower flexible members of the membrane switch to each other. The membrane switches are each connected across a mechanism to be operated and a source of power by flat conductors which extend outwardly of the module between the cover and container, preferably across the connected sides of the flaps.

6. 4,648,164, Mar. 10, 1987, Method for forming an energy absorbing coupling for a steering wheel; Yoichi Hyodo, et al., 29/894.1; 74/492, 552; 188/371; 280/777 [IMAGE AVAILABLE]

US PAT NO: 4,648,164 [IMAGE AVAILABLE] L12: 6 of 6

ABSTRACT:
A method for forming an energy absorbing coupling for connecting a steering wheel to a steering shaft is provided. The energy absorbing coupling is formed from a deformable member, a junction to the steering wheel and a junction to the steering shaft, each of which are formed as separate members. The deformable member includes a deformable part which functions to absorb energy from the force of an impact on the steering wheel. The deformable member is formed by bending without drawing. Work hardening effects of drawing are therefore avoided. The energy absorbing coupling formed has stable energy absorbing characteristics.

=> d his

(FILE 'USPAT' ENTERED AT 09:25:01 ON 24 JAN 94)

```
L1          17 S STEERING WHEEL PAD
L2       27502 S VINYL CHLORIDE
L3         278 S ALIPHATIC POLYURETHANE
L4           0 S ALKYL PHTHALIC ESTER
L5           0 S L2 AND L3  AND L1
L6          30 S L2 AND L3
L7          40 S STEERING WHEEL COVER
L8           0 S L6 AND L7
L9       55970 S 524/CLAS
L10      46965 S 525/CLAS
L11      69550 S 280/CLAS
L12          6 S L1 AND L11
```

=> s l1 and l9
L13 0 L1 AND L9

=> s l1 and l10
L14 0 L1 AND L10

=> s l7 and l9
L15 1 L7 AND L9

=> s l7 and l10
L16 0 L7 AND L10

=> d l15 cit ab

1. 5,153,067, Oct. 6, 1992, Collagen powder having good dispersion stability and use thereof as leather-like surface layer-forming agent; Eiichi, deceased Yoshida, et al., 428/402; 524/11 [IMAGE AVAILABLE]

US PAT NO: 5,153,067 [IMAGE AVAILABLE] L15: 1 of 1

ABSTRACT:
Disclosed is a collagen powder having a good dispersion stability, in which the content of particles having a particle size smaller than 40 .mu.m is at least 85% by weight, the water absorption is 120 to 300%, and the apparent bulk density is 0.10 to 0.30 g/cc. This collagen powder is advantageously used for a leather-like surface layer-forming agent and a leather-like molded article.

=>